Bozeman (N.)

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AND

ITS SUCCESSFUL TREATMENT,

BY

THE BUTTON SUTURE.

READ BEFORE THE

NEW YORK STATE MEDICAL SOCIETY,

AT THE ANNUAL SESSION, FEBRUARY, 1869,

By NATHAN BOZEMAN, M. D.

OF NEW YORK.

[Extracted from the Proceedings of the New York State Medical Society.]

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ARTICLE XI.

Vesico-Vaginal Fistule, and its successful treatment by the Button Suture, by Nathan Bozeman, M. D., New York.*

I will proceed to give the details of five consecutive cases of vesico-vaginal fistule, presenting seven openings. These cases were all treated and cured by the button suture, and extend through a period of seven months, from October, 1867, to May, 1868.

In order to render the principle of this form of suture easily understood, and to relieve the dullness of narrative, I will exhibit models, showing not only the size of the fistule in each of the cases, but also the form of the apparatus required to close it. From these models, a most accurate idea may be formed of this peculiar suture. Its mechanism will be found to be simple and admirably adapted to the fulfillment of all the indications of successful treatment. It is not necessary, therefore, even if I had the time, to enter into a full description of it. Those who may feel an interest in this part of the subject, I would refer to the New York Medical Journal for the present month (February), which contains an account, with illustrations, of this form of suture; and of the clamp and the interrupted silver sutures as employed in the same case, and upon the same fistulous opening, by three different surgeons. In the same reference can be seen a description of my *supporting and confining apparatus, and my self-retaining speculum.*

Case I.† — Mrs. C., New York, aged 35 years, very fleshy (over 200 pounds), was admitted in October, 1867, to St. Mary's Hospital, Hoboken, suffering from vesico-vaginal fistule, dating from the preceding March. The accident occurred during her eighth labor, which lasted only fourteen hours, resulting in the delivery of a still-born

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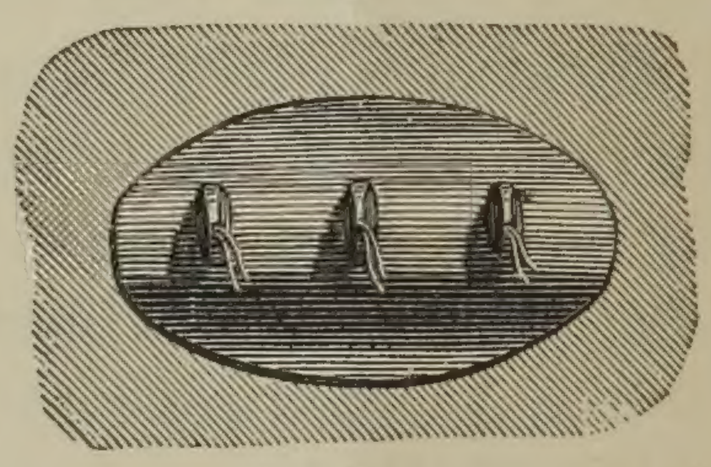
* The author would state here that his remarks on the necessity and importance of certainty in the operation for vesico-vaginal fistule, together with the statistics adduced by him to show the relative merits of the *double rows of interrupted silk suture, the button suture and the interrupted silver suture* (the three forms of sutures now in general use), have been omitted. His reason for not wishing to present his tabular statement now is, that he has not been able to collect a sufficiently large number of cases operated upon by these several methods to render the comparison as conclusive as he would like. The statistical mode of inquiry which has been adopted, the author believes to be the only one by which the *true* measure of value attached to each of these methods of operation can be reached, and the larger the basis of calculation, the more certain will be the deductions, the important object to which attention is directed. As soon as the compilation of statistics is complete the record shall appear.

† Partially reported in the N. Y. Med. Record for January, 1868.

child by the use of forceps. On examination, the vagina was found to be exceedingly capacious, the largest sized duck-bill speculum not being sufficient to dilate it fully. The uterus was antiverted. The fistule was the size of a pin's head, situated in the lower part of the *bas fond* of the bladder, far to the left side.

First Operation, Oct. 22d. — The execution of the several stages of the operation was attended by almost insurmountable difficulties. One was, the ill-adaptation of the duck-bill speculum, and the consequent impossibility of fairly exposing the edges of the fistule. Another was, the excessive sensitiveness of the parts, and the constant bearing down and straining by the patient, simulating the pains of labor. At times she became quite unmanageable, spite of as many assistants as could well get to the table to hold her. After much worry and fatigue the edges of the fistule were pared, and three sutures introduced.

Fig. 1.



The annexed drawing illustrates the adjustment of the button, and the kind of button employed. Duration of the operation, two hours and a half. Removal of the suture apparatus on the eighth day showed a complete failure.

Second Operation, Nov. 22.—In this operation the patient was placed in the *right angle position, upon the knees and chest*, supported and confined by the apparatus before referred to. My largest sized self-retaining speculum was required to dilate the vagina and to expose the edges of the fistule. No assistants were needed, except one to administer chloroform, and one to attend to the sponges. Duration of the operation, twenty-five minutes; the patient being placed in bed totally unconscious of what had been done. Suture apparatus removed on the eighth day, and the fistule found entirely closed. The button used in this operation, I should have remarked, was the same described above as used in the first operation. I may also state that this was the first application of my new speculum; the one used being my original model, and constructed principally of *gutta percha*. My supporting and confining apparatus had been employed but once previously, and before its construction was complete. Mrs. C., I learn, has just been delivered of her ninth child.

CASE II.—Mrs. J. R., of Goshen, Orange county, N. Y., was admitted into St. Mary's Hospital on October 27th, 1867, suffering from a vesico-vaginal fistule. She was an albino, aged 28 years, above the medium stature; had been married about one year, been delivered two months prior to admission of a very large child, when craniotomy had been resorted to, after labor had lasted fifty hours. On

examination, I found extensive excoriations of the labiæ, buttocks and thighs. A firm and unyielding band stretched across the posterior wall of the vagina. The fistule, involving the root of the urethra, presented the appearance of a cut, or rent, along the margin of the rami pubes, of about one and a half inches in length. The preliminary treatment consisted in dividing the above described cicatrical band and dilating the vagina to its normal dimensions.

Operation, January 23, 1868. — Present, Dr. Chabert, of Hoboken Dr. Paine, of Bergen, and Drs. Fennell, Mason, Hubbard, Voss and Messenger, of New York. The patient was secured in the *right angle position upon the knees and chest*, as was done in the preceding case. My smallest sized speculum was used, and the operation was completed without the aid of assistants. Six sutures were employed (three on each side the urethra), and when adjusted, the line of the approximated edges, was found to be one and a half inches long. The button provided was one and three-quarters inches long, and was bent upon its convexity, to give it the curve of the pubic arch. Having this great length, and standing transversely between the two lateral blades of the speculum, no trouble was experienced in its adjustment, as this circumstance would have led one to suppose. A male gum elastic catheter was used, which did not require removal for five or six days, being cleansed and kept open by means of a small wire passed through it occasionally. On the eighth day the suture apparatus was removed, and the cure found to be complete. The patient, after getting up, discovered a slight escape of urine from the urethra, occasionally, when she would leave the recumbent posture. From the nature of the injury, such a result was to be expected. Improvement in this particular, however, soon took place, and continued to the date of her dismissal, when little or no inconvenience was experienced from it.

Fig. 2.

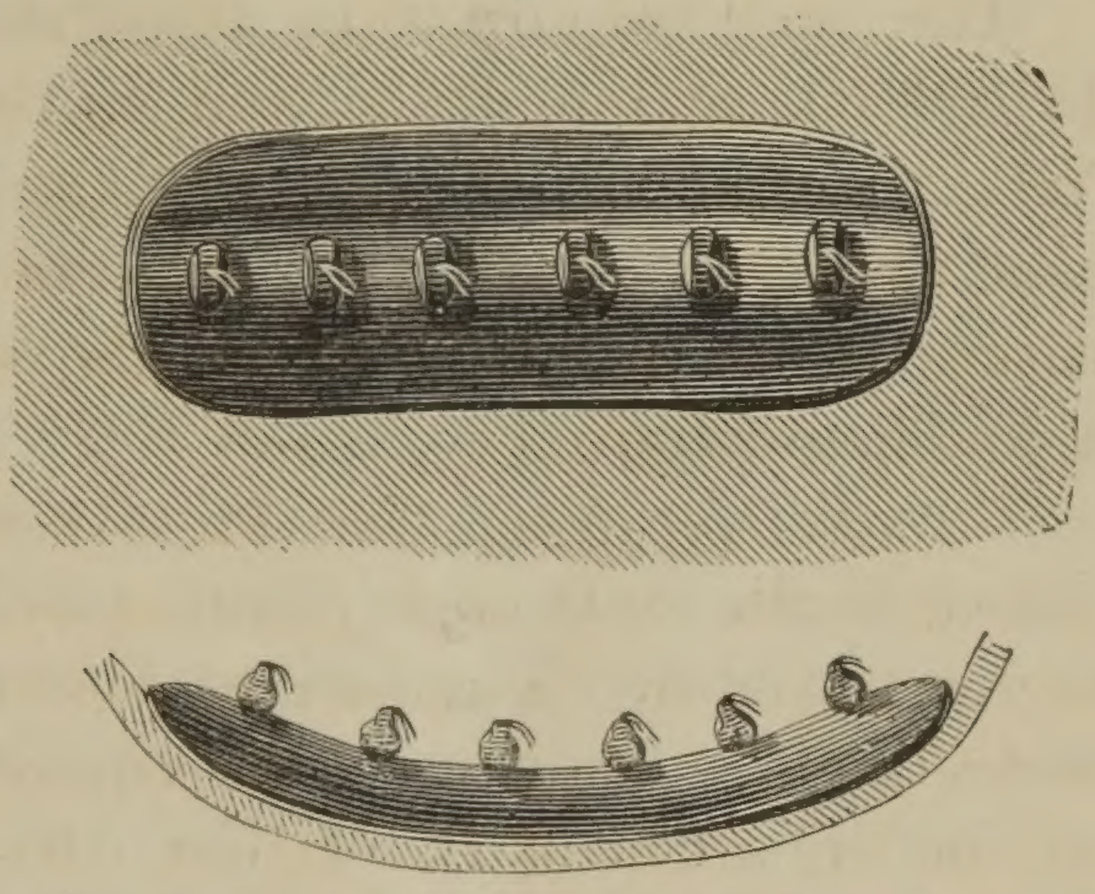


Fig. 2 represents front and edge views of the button.

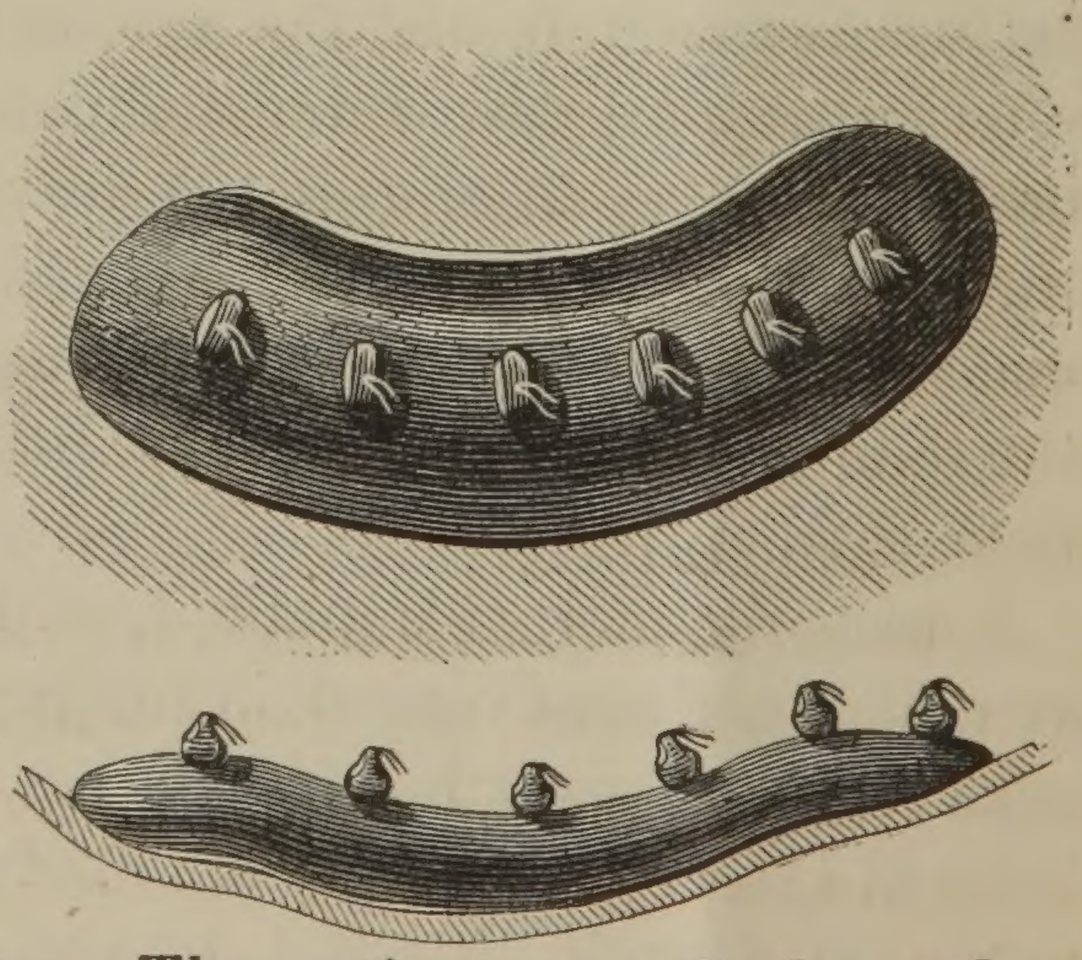
I recently saw this patient, and she informed me that she was several months advanced in pregnancy, and that she had the most perfect control over her bladder.

Case III. — Ann M., aged 26, of the city of New York, was admitted to St. Mary's Hospital, by the direction of my friend, Dr. Thos.

Finnell, on the 27th Nov., 1867. She was below the medium stature, and round and full in figure; had been confined with her first child, at full term, the preceding August. Forceps had been resorted to, delivering a still-born child; the urine began to dribble away after four or five days. On examination of the vagina, an opposing obstacle was encountered, about two inches from the meatus, which proved to be a broad cicatrical band, extending across both walls of the vagina. The canal at this point was narrowed, so as to admit about a No. 8 bougie. The fistule was situated just below the stricture, and to all appearances, would accommodate the index finger. By lateral incisions, and dilatation with tents, the vagina, in the course of a couple of weeks, was restored to its full width. The fistule was now found to be of much greater dimensions than was first supposed; it involved, not only the root of the urethra, but the whole of the trigone, and a part of the *bas fond* of the bladder.

Operation January 9, 1868.—Present, Drs. Chabert, A. C. Post, Finnell, Dewees, Merrill, Roth, and several other physicians of New York. Patient placed in the *right angle position*, *upon the knees and chest*, supported and confined in the usual way. Again I employed my small sized speculum, and completed the operation without the aid of assistants. The end of the urethra was, as in the preceding case, cut across in the removal of the anterior border of the fistule. Six sutures were required, three passing through the anterior lip of the cervix uteri. Their adjustment showed the line of the approximate edges to be one and five-eighths inches in length, and slightly curved, the convexity of the curve pointing downwards. The radius of the arc thus formed, measured one inch and an eighth. The button employed was one and seven-eighths inches long, and when adapted to the parts and viewed edgeways, presented somewhat of a sigmoid shape. The accompanying Fig. 3, illustrates the apparatus as applied, with front and edge views. I should have observed that previous to the adjustment of the sutures a No. 6 male gum elastic catheter was lodged in the urethra. After-treatment consisted in keeping the catheter open and giving morphine *pro re nata*. Not an untoward symptom occurred, and on the eighth day the suture apparatus was removed, and union of the parts found to be complete. The patient was discharged on

Fig. 3.



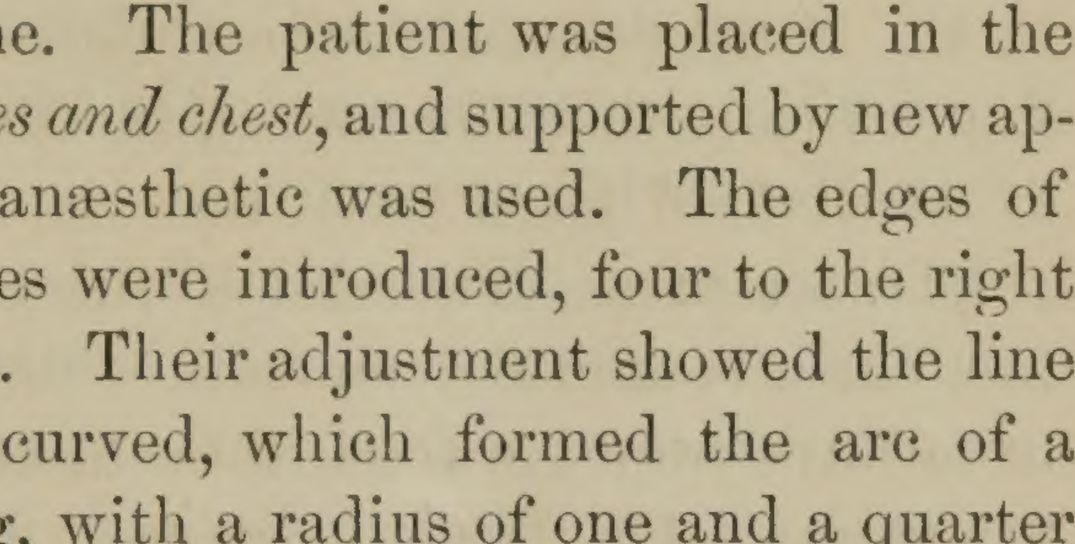
the fifteenth day with complete and perfect control over the bladder.

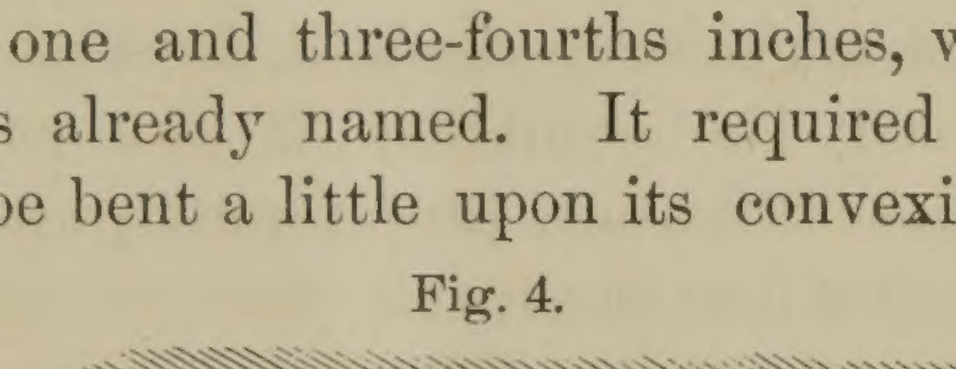
Case IV.—Mrs. L. W., of Austinberg, Ohio, through the kindness of Dr. Isaac E. Taylor, of this city, was placed under my care, Nov. 7, 1867. The patient was 22 years of age, under medium stature, but well formed, and stated that she was delivered at full term of her first child, without instruments, but after a labor lasting 60 hours, in July, 1866. First noticed dribbling of urine 14 days after the completion of labor. After this, began to improve and soon could walk. At the end of three months her general health was quite restored, and now was pregnant again; went to the full term of gestation, not, however, without several threatenings of miscarriage. Her labor this time was easy and satisfactory. On examination, the fistule was found large enough to admit two fingers into the bladder, eliptical in shape, with its long axis extending upward and to the right side; it involved the root of the urethra, and nearly the whole of the trigonus vesicalis.

First Operation, Nov. 15th, 1867.—Present, Drs. Isaac E. Taylor, Jas. R. Wood and Jno. O. Stone. The patient was placed in the *right angle position, upon the knees and chest*, and supported by new apparatus, but not confined. No anæsthetic was used. The edges of the fistule being pared, six sutures were introduced, four to the right and two to the left of the urethra. Their adjustment showed the line of approximation to be slightly curved, which formed the arc of a circle, one and a half inches long, with a radius of one and a quarter inches. The button measuring one and three-fourths inches, was fashioned to suit the indications already named. It required in addition to description above, to be bent a little upon its convexity, and slightly twisted, in order to complete its adaptation.

Fig. 4 annexed (front and side views) shows the curves formed by the line of holes and by the bending upon the convexity. Before securing the sutures, the ordinary bent metalic catheter was introduced, I, unfortuately, not having at hand a suitable male elastic catheter.

Fig. 4.





After-treatment.—Opium was given freely to control the bowels. At the end of thirty-six hours, catheter became choked up, and had to be removed and cleansed. I attempted to reintroduce it but failed, on account of the closure of the urethra by the fourth and fifth sutures. A No. 4 elastic catheter, after some little delay and trouble, was

passed into the bladder, but the irritation and inflammation set up by the pressure of the instrument, at the point of the sutures mentioned, settled into the formation of an abscess, which discharged itself on the fifth day into the urethra. After twenty-four hours, a similar discharge occurred. The patient now felt much relief, and as all the urine continued to pass through the catheter, I hoped that the mischief done by the abscess would not seriously compromise the ultimate success of the operation. On the eighth day I removed the suture apparatus, and found closure of the original fistule complete. At the seat of the abscess described, however, the urethra was found cut in two, resulting in a *urethro-vaginal fistule*, large enough to admit the point of the index finger.

Second operation, Dec. 14.—Present, Drs. Willard Parker, Isaac E. Taylor, and Charles D. Smith. The patient was placed in the same position as before described; she preferring again not to take an anæsthetic. The operation consisted in cutting off the broken ends of the urethra and freshening the excavated surfaces on either side of it. Four sutures were introduced. Before securing the button a No. 6 elastic catheter was lodged in the urethra, to remain there four or five days without removal.

Fig. 5.

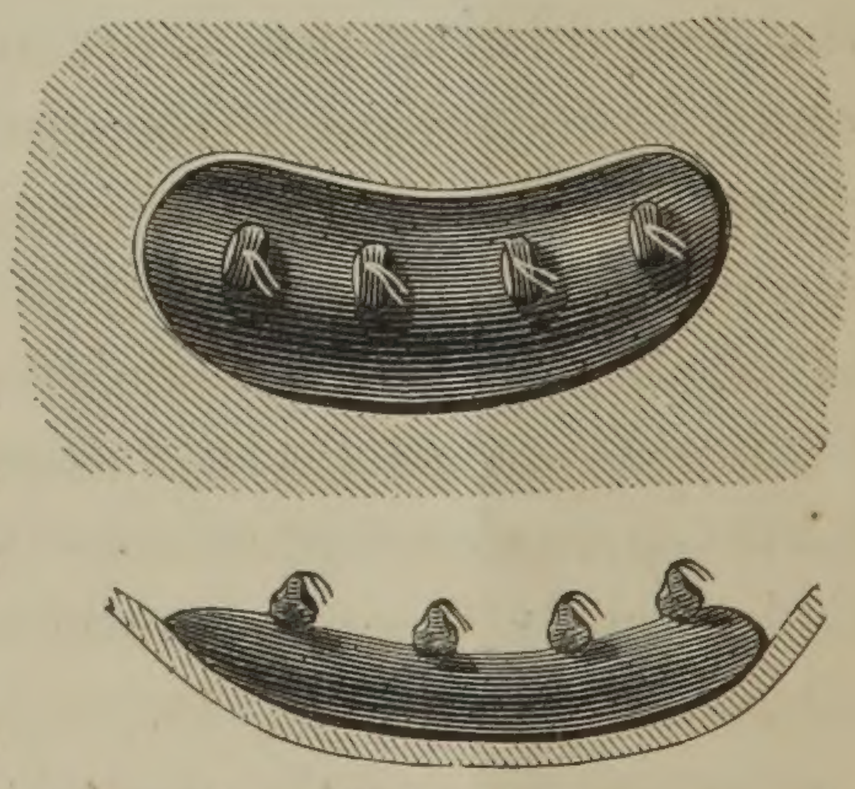


Fig. 5 represents the shape of the button, and the curve given to it. Not an untoward symptom occurred in the after-treatment. On the eighth day, I removed the suture apparatus, in presence of Dr. Taylor, and found the cure complete. The patient got up with perfect control of her bladder.

I should observe here, that my supporting and confining apparatus, was first employed in this case. In both of the operations described, I used the old duck-bill speculum, for the reason that I did not then have a suitable size of my self-retaining speculum.

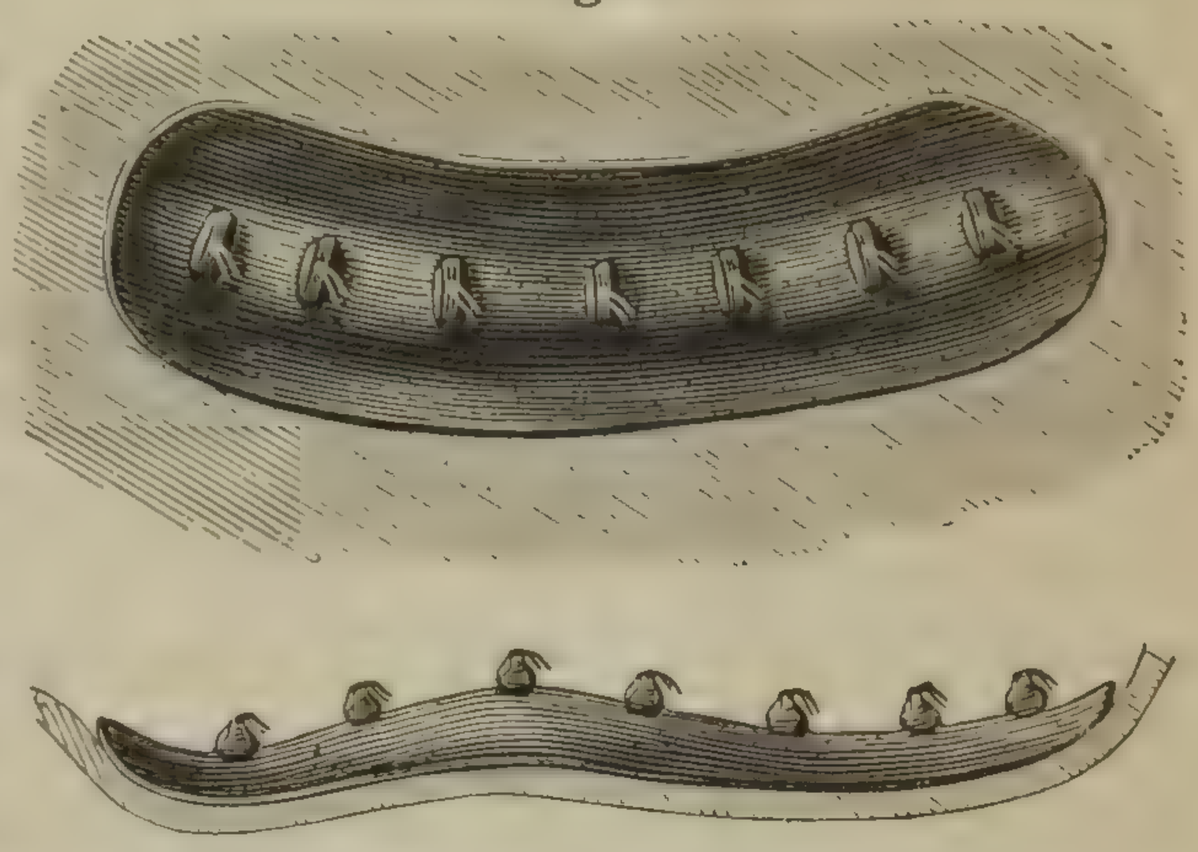
CASE V.—Mrs. L. R., of Troy, New York, was admitted to St. Mary's Hospital, on the recommendation of Dr. Bonticou, of that city, Feb. 5, 1868. Patient aged 41; was above medium stature, very well formed; of lymphatic temperament, and low standard of health. Stated that she had had dribbling of urine ever since the birth of her second child, in July, 1853. The child was still-born, and weighed fourteen and a half pounds; it was delivered by forceps; she was operated on a few months after confinement, but was not benefited, the urine continuing to dribble away as it had done before; the following spring was again operated on, by another surgeon, with

no better result; and in the spring of 1855, was admitted to the New York Hospital, where she again underwent an unsuccessful operation; now returned to her home without any hope of ever being cured; remained there twelve years, during which time had five pregnancies and miscarriages. In the spring of 1867, she was advised to visit New York again, and apply to the New York State Woman's Hospital for treatment; was examined at this institution and told that she could not be admitted; again returned to her home, resolved to drag out her wretched existence, never expecting to make another attempt to be cured; now increased the quantity of morphine, which she had been using for years, taking from six to eight grains a day upon an average, until she was admitted to the hospital. On examination, I found extensive excoriations, caused by the acridity of the urine. The superior fundus of the bladder protruded through the fistulous opening and mouth of the vagina, in the form of a tumor, as large as a medium sized orange. The surface was of a fiery red appearance, and was studded at several points with granulations, excessively sensitive, and bleeding at the slightest touch. Both ureters opened upon this extruded surface, and the urine could be seen trickling away, direct from the kidneys. The patient being upon her hands and knees, it was found that the protruded portion of the bladder, could be returned to its proper place, through the vesico-vaginal fistule, which was now discovered to be of enormous dimensions. Three fingers could be readily passed through it into the bladder. It involved about a third of an inch of the root of the urethra, the whole of the trigone and a large part of the *bas fond* of the bladder.

First operation, *February* 26.—Present, Drs. Hubbard, Voss, Beach, Bahan, Newman, and a number of physicians of New York; Dr. Enos, of Brooklyn, Dr. Bonticou, of Troy, and Drs. Tewksbury and Gordon, of Portland, Maine. The patient was placed in the *right angle position*, *upon the knees and chest*, supported and confined in the usual way. My medium sized speculum was found best suited to the case; no assistants needed, excepting two, to give the anæsthetic and to wash sponges. In paring the anterior border of the fistule, the broken end of the urethra was cut across, seven sutures were required, five to the right and two to the left side of the urethra. Their adjustment showed the line of approximated edges to be the arc of a circle, one and three-quarters inches in length, with a radius of one and a quarter inches, the figure almost always presented by this class of fistules. The button was made in accordance with this curve. Between the fifth and sixth holes, it required to be bent upon the concavity, for the relief of the thickened urethra; and upon the convexity between this point and the extremities, to bring it down

upon the concave surfaces existing here. The accompanying Fig. 6 gives an exact representation of these curves. The button is two inches long, and strikingly illustrates two important advantages, namely: the fewness of the sutures required, and the uniform support given in an opening of so great a length. The adaptation being found perfect, a small elastic catheter was passed into the urethra, and the button secured in the usual manner. The patient was placed in bed, totally unconscious of what had been done. When she recovered from the anæsthetic, one grain of morphine was given, with directions to repeat the dose every six hours. The case progressed as well as could be desired. The catheter was allowed to remain in the bladder until the fifth day, undisturbed, when it was removed, and a new one introduced in its stead. On the eighth day, assisted by Dr. Chabert, I removed the suture apparatus, and found the parts united throughout. The patient was kept in bed a few days longer, and then allowed to get up. To her great astonishment, she now found that she could retain her urine, a thing she had not been able to do for fifteen years. After being up a few days, however, it was discovered that there was still slight incontinence. This was attributed to the shortened condition of the urethra, but a more careful examination of the vagina showed that it was due in part, if not entirely, to another cause, namely, the existence of another fistule. The urine could be seen trickling from the os uteri. The cervical canal was now dilated with sponge tents, and dilligent search made for the fistulous communication, but it could not be discovered, even with the most delicate probe which I could use. The application of the *linen test*, however, showed the point at which the escape of urine took place, to be about half an inch from the external os. Now, directing my attention to the exact locality thus shown, I was soon enabled to detect the orifice, with the aid of my probe. It was exceedingly minute, and I do not believe I could have succeeded in finding it, had my attention not been first attracted to the escape of urine from this particular locality. Further search with the above test, disclosed the existence of still another fistulous opening, just below, and touching the anterior lip of the cervix uteri, being in a direct line with the above, and separated from it about three-quarters of an inch. Both of these

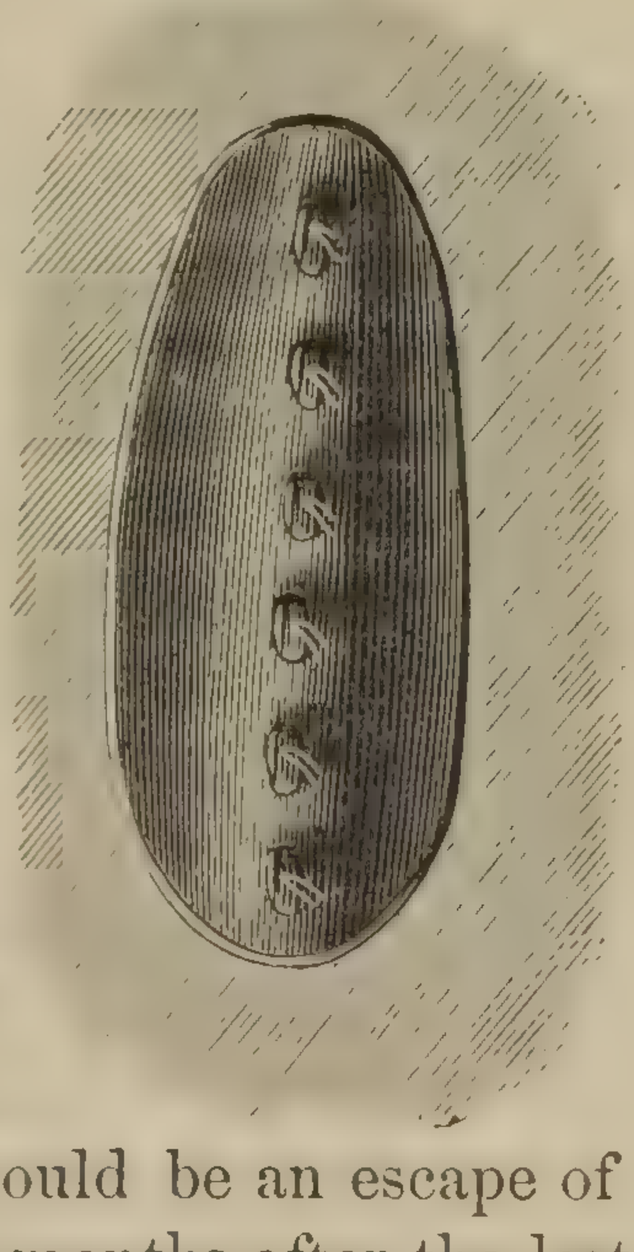
Fig. 6.



fistules were so small as scarcely to be seen, yet the escape of urine from both of them was clearly and unmistakably proven, by the simple expedient mentioned. The case, therefore, as first presented, showed three fistulous openings, — first, the one already closed, involving, as I have said, the root of the urethra, the trigone, and the *bas fond* of the bladder; second, the one situated in the upper part of the *bas fond*, complicating the anterior lip of the cervix uteri; third, the one communicating with the cervical canal, designated by Jobert as *vesico-uterine*.

Second operation, April 24, 1868. — Present, Drs. Isaac E. Taylor and Chabert. The patient was placed in the right angle position, upon the knees and chest. My self-retaining speculum was again used, the medium sized one. The operation consisted in merely laying the two fistulous tracts into one, by an antero-posterior division of the anterior lip of the cervix uteri, reproducing directly, as it were, the same condition which the parts presented at the time of the original injury. This having been done, the fistulous tracts and sides of the cleft cervix were thoroughly freshened and trimmed off to form a good line of approximation. Six sutures were introduced, three in the cervix and three in the vesico-vaginal septum. They were then adjusted, and the button secured in the usual way, the upper end of the latter resting upon the anterior lip of the cervix uteri, and partially within the os. The line of the approximated edges, as indicated by the annexed Fig. 7, required no curve in the line of holes, or upon either face of the button. After-treatment, the same as in the former operation. On the eighth day the suture apparatus was removed, and so far as could be determined then, the closure was complete. At the lower angle, however, there existed a small ulcerated surface, occasioned by too extensive paring, but no escape of urine from this point was perceptible. By a few applications of the nitrate of silver, this point cicatrized, and the cure was pronounced complete. After two or three weeks the patient was discharged with perfect restoration of power over the bladder, except at times, when there would be an escape of a few drops from the urethra. In a letter three months after the last operation, the patient says to me: "For several days in succession not one drop of urine passes excepting when nature requires it." It may, therefore, be assumed that the three fistulous openings were

Fig. 7.



closed by the two operations described. That the slight incontinence of urine experienced occasionally, is due to the shortened urethra, does not admit of a doubt, and the probability is, that it will always occasion some little inconvenience, especially on leaving the sitting or recumbent postures.

Remarks. — The foregoing cases have been reported at considerable length; but, considering their general character, and the importance of the two new improvements inaugurated and successfully employed in their management, it may be allowed, I think, that some atonement has been offered for the time occupied. Five more interesting cases, viewed particularly with reference to the results of treatment, and coming under the notice of one surgeon consecutively, are rarely to be met with, judging from my experience. As has been shown, seven fistulous openings, ranging from the smallest to the largest, and variously complicated, were closed at six operations,—actually one operation less than the whole number of fistules.

It is true, from first to last, eight operations were performed, but it will be recollected that two of them were done under such circumstances as to justify their exclusion from an estimate of the merits of the improved appliances above referred to, and to which much of the success has been claimed to belong. One of these operations (the first performed upon Case I) failed, it must be admitted, from the want of a suitable speculum. This result, however, unsuccessful as it was, possesses unusual interest, as affording a most striking contrast with that secured afterward by the improved mode of operating. The difference may be thus plainly stated: The first operation with the duck-bill speculum and as many assistants as could crowd around the table to hold the patient, and lasting two hours and a half, resulted in a complete failure; the second operation, with no assistants, performed in twenty-five minutes, was a complete success. The difficulties attending the case, and the fairness of the two operations performed upon one and the same fistule, no one can deny.

As regards the other operation alluded to (the first performed upon Case IV), it may be considered by some a partial failure, but in reality it was a complete success; since the original fistule, which was quite large, was found entirely closed from one angle to the other. The unfortunate result met with was the complete severance of the urethra in the after-treatment, caused by an abscess, an accident entirely unforeseen, and the consequences of which were unavoidable. The fistule thus presented was *sui generis*, and claimed separate and distinct consideration. The case, however, illustrates the serious consequences often resulting from a neglect of small and apparently trivial matters. There is not the slightest doubt that had a soft male elastic

catheter been used instead of the hard, unyielding metallic one, the accidental division of the urethra, occurring as described, would not have happened, and a second operation would not have been necessary. The superior advantages of the elastic catheter in such cases, and, indeed, in all cases where the urethra is any way involved, must be admitted. The most important advantage is, that it may be allowed to remain undisturbed from four to six days, the most critical part of the after-treatment, any nurse with five minutes instruction being competent to attend to it.

It is true that the exclusion of the above two operations enhances very materially the estimate of success; still I do not think it overdrawn, and, considering the discouraging features in all the cases, no better and stronger proof of the perfection of any operation can be offered than is here presented in these results. The completeness of the cure in every case, and the fewness of the operations performed, are notable features of the treatment. They show in the most conclusive manner why the method of treatment adopted is capable of the widest range of success. It is supposed by some that other methods of treatment, requiring repeated applications, are capable of the same good results, but no greater mistake could be made. Any surgeon who bases his hopes upon the chances of reaching the maximum limit of success by repeated operations upon the same case will surely meet with sad disappointment. It is a well known fact that every unsuccessful operation lessens the chances of an ultimate cure, by diminishing the vitality of the parts, and but few patients can be found in whom faith and power of endurance will not diminish in a like ratio. It was Sir Astley Cooper, I believe, who said: "That an operation well performed was performed soon enough." This is, undoubtedly, a sound maxim, and holds good as a general rule in all operations, but the converse of it is true, as regards the cure of vesico-vaginal fistule. The cure must be *soon* performed to be *well* performed. Only in this way can the largest proportion of cases presented be retained under treatment, and consequently the largest number of cures be effected. In order, therefore, to attain these ends, the operation selected should possess the three following requisites: First, perfect power to control the patient; second, perfect means of dilating the vagina and exposing the edges of the fistulous opening; third, a perfect suture apparatus. These points have all been secured in the general plan of treatment pursued in the foregoing cases, and I venture to say there is no amount of skill, I care not what the experience or opportunities of the surgeon may have been, that can do away with the absolute importance of one or all of them in a large proportion of the cases met with in practice.

I propose next to call attention, particularly, to the diagnostic value of the *linen test* as employed in Case V. Pus and mucus in small quantities adhere *to* and spread *upon* the surface of a piece of linen without being absorbed by it, while water or urine, on the contrary, even in the minutest quantity, when brought into contact with the same material, penetrates almost instantly the entire thickness of the fabric. The presence of these fluids, if the flow is continuous, is evidenced by increasing saturation of the spot acted upon, and the spreading of the moisture in every direction. Thus, is presented a most valuable and reliable means of determining the presence of urine in the vaginal, or uterine canal, when the quantity is so small as to escape observation; not only this, but the precise situation of its escape from the bladder can be made with the greatest certainty, when it would be impossible to detect it by the ordinary means, owing to the minuteness of the orifice, or its concealment by a fold of mucous membrane. By this little expedient, as has been shown in Case V, the question of the escape of urine from the external uterine as was promptly ascertained, as was the orifice in the cervical canal communicating with the bladder. The simplicity and ready applicability of this test in all cases of doubt affords, I conceive, the strongest recommendation to its use. My long experience with it justifies me in saying that its excellence admits no comparison with delicate probes or the injection of colored fluids into the bladder. I have no hesitation in saying that it is the most delicate test that can be used when great accuracy is required. My first employment of it was about twelve years ago, and since then I have repeatedly had occasion to resort to it under similar circumstances to those mentioned in connection with Case V. When properly applied, there need be no apprehension of discharging a case as cured when really it is not. Such cases, I may be permitted to say, are not unfrequent. I will refer to one which came under my notice several years ago. The patient had been operated upon by one of the ablest surgeons in this country, and the cure supposed to be successful. I found it incomplete. Two exceedingly minute fistules remained near the neck of the bladder. With the linen test, I almost instantly discovered the presence of urine in the vagina, and the points of communication with the bladder. Similar cases falling in the hands of general practitioners, I can well understand might be mistaken and treated for weakness of the bladder, or urethra. Under such circumstances, this ready test could not fail to prove of great value in clearing up the diagnosis and leading to a judicious course of treatment.

In using the test, nothing more is necessary than to fill the bladder with water, and then wipe thoroughly dry the anterior wall of

the vagina. A piece of old linen is now rapidly spread out upon the latter, and pressed down smoothly, the patient being in the angular position, upon the knees. In a few moments, the effect of the fluid upon the linen, as already pointed out, will be seen at the place of escape from the bladder, should the orifice be even no larger than a pin's point, or a fine bristle. When the patient is placed in the dorsal position, it is seldom necessary to inject the bladder, the natural flow of the urine from the kidneys, will be found quite sufficient to mark the situation of its unnatural escape into the vagina. Not having seen any mention of this means of diagnosis, by previous writers upon the subject, I have been led here to dwell upon the practical utility of it, which, I trust, will not be considered out of place. I will again refer to Case V, for the purpose of bringing forward more prominently than has been done, the procedure adopted in order to reach the point of communication with the cavity of the bladder, in the canal of the cervix uteri — the *vesico-uterine fistule.* This consisted, it will be recollected, in an antero-posterior division of the vesical wall of the cervix, extending from the fistulous tract above named, to the one below, complicating the anterior lip of the cervix — the *vesico-vaginal fistule.* Thus were both fistulous openings laid into one, and then, after paring off the sides of the cleft, the whole of it was closed at a single operation. This operation had for its object, the closure of the *vesico-uterine fistule*, without interfering with the functions of the uterus, a most important desideratum in all cases.

The first case in which I was led to practice division of the anterior lip of the cervix uteri, for the purpose above indicated, may be found reported in the North American Med. Chir. Review, for July, 1857, Case V. So far as my information extends, this is the first case of the kind to be found on record.

The procedure usually adopted in this country and Europe, in such cases, is the one first recommended by Jobert, of closing the external uterine orifice, and thus turning the menstrual fluid through the bladder, causing sterility. Judging from my experience in the treatment of the above, and other similar cases, I have no hesitation in saying, that this expedient is unnecessary, and unjustifiable. The closing of the mouth of the womb, thus causing permanent interference with the functions of that organ, I consider one of those delicate points, occasionally presented in practice, which cannot be passed over lightly, without assuming a fearful responsibility. The chances of any operative procedure not liable to the objections named, deserves to be well considered before it is discarded, especially if the patient be a young woman, as is apt to be the case.

My attention was directed to the practicability of the method of operation, above described, several years before I had occasion to employ it, while treating a case of vesico-vaginal fistule, complicated with laceration of the anterior lip of the cervix uteri. The procedure in that case was also new, and had for its object, the closure of the fistule and rent at one operation. Then, I had never heard of the cervix uteri being pared, and sutures being carried through it for any purpose; but the plan appeared to be based upon philosophical principles, and I was induced to make a trial of it. The result was a complete success, and may be found recorded in the Southern Medical and Surgical Journal, for August, 1855. The practical importance of this operation, and the estimate placed upon it at the time, may be inferred by the following language, used by Dr. J. Marion Sims, who is justly regarded as a high authority. Soon after seeing a report of the case, he says:

"I am under great obligations to you, and science is under lasting obligations to you, for your beautifully successful operation for vesico-vaginal fistula, complicated by laceration of the cervix uteri. Yours is the first successful operation of the sort on record. Four or five weeks ago, I performed just such an operation as yours, and with the same happy result. Previously to seeing the report of your case, I had some fears as to the success of the operation, but you drove them all away, and I operated with the greatest confidence of success."*

The same gentleman, in his report upon some of the injuries incident to parturition, read before the American Medical Association, at its convention in Washington, May, 1858, again did me full justice, in acknowledging my claims to priority in this operation, but that report was not published in the transactions, nor in any other form since, that I have been able to find. This advanced step, therefore, in the treatment of lacerations of the cervix uteri marks a most important era in the history of vesico-vaginal fistule. Some idea may be formed of it when it is estimated that $33\frac{1}{3}$ per cent of all the cases presented for treatment complicate in some way the cervix uteri, requiring it to be incised, or denuded, and sutures introduced. The operation of closing with certainty, and almost without danger to life, the largest sized openings, complicating the cervix, alone affords the most convincing proof that could be adduced of what has been said. Previously, this class of fistules was treated by occlusion of the vagina, as recommended by Vidal, or by the more dangerous resort of Jobert, *autoplastie par glissement*, with a mortality of twenty per cent of all cases thus treated. 53 *West* 33*d street.*

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* MS. letter to the author, No. 79 Madison avenue, N. Y., Nov. 6, 1855.